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Original Research Article

PREVALENCE, RISK FACTORS, AND MANAGEMENT STRATEGIES FOR LOW BACK ACHE IN WOMEN OF REPRODUCTIVE AGE: A CROSS-SECTIONAL ANALYSIS

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Abstract

Background: Low back pain (LBP) is a prevalent musculoskeletal issue among women of reproductive age. Identifying the prevalence, risk factors, and management strategies is essential to addressing this condition effectively. **Objective:** To assess the prevalence, risk factors, and management strategies associated with LBP in women of reproductive age **Materials and Methods:** A cross-sectional study was conducted involving 100 women aged 18-45. Data were collected through structured interviews to evaluate the prevalence of LBP, identify associated risk factors, and determine the management strategies employed. **Result:** The overall prevalence of LBP was 58%, with the highest prevalence in women aged 30-35 (40%), followed by those aged 36-45 (27%). Lower prevalence was noted among women aged 25-29 (18%) and 18-24 (15%). Key risk factors included occupational factors (38%), a body mass index (BMI) of 25 or higher (45%), a history of pregnancy (60%), and a sedentary lifestyle (55%). Management strategies varied, with 65% of the affected women relying on self-care measures such as over-the-counter pain medication, heat therapy, and stretching exercises. Physiotherapy was utilized by 25%, while only 10% sought medical consultation for specialized treatment. **Conclusion:** LBP is highly prevalent among women of reproductive age, particularly those aged 30-35. Effective interventions must focus on reducing occupational risks, encouraging physical activity, and promoting early access to structured therapies. Comprehensive preventive strategies can mitigate the long-term impact of LBP on women's health and quality of life.

INTRODUCTION

Low back pain (LBP) is a common health condition affecting people globally, impacting daily activities and quality of life.[1] It remains a significant cause of disability across all age groups and socioeconomic backgrounds. LBP poses particular challenges for women of reproductive age due to their physiological and lifestyle factors.[2,3] During this life stage, women often experience various changes in activity levels, body composition, and occupational responsibilities that could contribute to the onset or exacerbation of back pain.[4]

Numerous studies have highlightsd the multifactorial nature of LBP in women, highlighting the role of factors like pregnancy, sedentary lifestyle, occupational demands, and obesity.[5] Pregnancy, in particular, is recognized as a risk factor due to physiological changes that increase lumbar spine curvature and the additional weight burden on the lumbar region.[6] Furthermore, occupations requiring prolonged sitting or standing, combined with inadequate ergonomic practices, may exacerbate the risk.[7]

Given these complexities, understanding the specific prevalence and risk factors for LBP among women of reproductive age is crucial. Furthermore, identifying effective management strategies is vital to reducing the personal and economic impact of this condition. This study aims to provide a comprehensive assessment of the prevalence, risk factors, and management strategies of LBP in women aged 18 to 45. By understanding these aspects, healthcare providers and policymakers can develop more targeted interventions to prevent and manage LBP effectively in this demographic, ultimately improving overall health outcomes.

2131

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Aim and Objectives

To assess the prevalence, risk factors, and management strategies associated with low back pain (LBP) in women of reproductive age.

Objectives

To determine the prevalence of LBP across different age groups within the reproductive age range.

To identify significant risk factors influencing the development of LBP in this demographic.

To evaluate the various management strategies utilized for LBP and their effectiveness in providing relief.

MATERIALS AND METHODS

This cross-sectional study was conducted at Sri Venkateswara Medical College, Tirupati, over a six-month period from January 2023 to June 2023. The study aimed to assess the prevalence, risk factors, and management strategies for low back pain (LBP) among women of reproductive age (18-45 years). The methodology involved the following steps:

Sample   Selection

A total sample size of 100 women was recruited using convenient sampling from outpatient clinics and community health programs affiliated with Sri Venkateswara Medical College.

Inclusion Criteria:

Female

Age between 18 and 45 years

Experiencing or had experienced LBP

Able to provide informed consent

Exclusion Criteria:

Currently pregnant

Recent history of spine trauma or surgery

Diagnosed with any neurological disorders affecting back pain

Data Collection

Data were gathered using a structured interview questionnaire composed of the following sections:

Demographic Information: Age, occupation, BMI, marital status, and pregnancy history

Low Back Pain Assessment: Questions on the presence, frequency, intensity, and impact of LBP on daily activities

Risk Factors and Management Strategies: Occupational activity, physical activity levels, ergonomic practices, and management strategies, such as self-care, physiotherapy, and medical consultation

Data Analysis

Descriptive statistics were used to summarize the prevalence of LBP across age groups and other demographic variables.Associations between identified risk factors and the prevalence of LBP were analyzed using chi-square tests and logistic regression.Management strategies were categorized according to utilization rates and presented descriptively.

Ethical Considerations: The study was conducted in accordance with ethical guidelines and standards.

Informed consent was obtained from all participants. The study protocol was reviewed and necessary prior permissions taken from concerned authorities.

RESULTS

The study provided comprehensive knowledge into the prevalence, risk factors, and management strategies associated with low back pain (LBP) among women of reproductive age.

Prevalence of Low Back Pain

Table 1 reveals that out of the 100 women surveyed, 58% reported experiencing LBP. The prevalence varied significantly across age groups. Women aged 30-35 exhibited the highest prevalence at 40%, highlighting the age group as particularly susceptible. The next most affected group was women aged 36-45, accounting for 27% of those experiencing LBP. Meanwhile, lower prevalence rates were observed among women aged 25-29 (18%) and those aged 18-24 (15%). This distribution underlines the importance of monitoring LBP symptoms more closely in specific age ranges, particularly in their early to mid-thirties.

Risk Factors

The study identified several risk factors contributing to LBP, summarized in Table 2. Occupational factors emerged as a significant risk, with 38% of the women experiencing LBP engaged in occupations that require prolonged sitting or standing. This finding supports existing literature linking repetitive or static postural demands to LBP. Body mass index (BMI) also played a significant role, with 45% of women with a BMI of 25 or higher reporting LBP. Increased weight can lead to altered biomechanics, exacerbating stress on the lumbar region.

Pregnancy history was another crucial risk factor. Women with a history of one or more pregnancies had a 60% prevalence of LBP, much higher than those without pregnancy experience. This heightened risk might be associated with physiological changes during and after pregnancy, such as increased lumbar curvature and weight gain. Lastly, a sedentary lifestyle was reported by 55% of the women with LBP, highlighting the negative impact of physical inactivity on musculoskeletal health.

Management Strategies

Table 3 displays the management strategies adopted by the women experiencing LBP. The majority (65%) relied on self-care strategies such as over-the-counter pain medications, heat therapy, and stretching exercises. These measures provide symptomatic relief but may lack long-term efficacy if underlying causes are not addressed. Physiotherapy, a more structured approach involving guided exercises and manual therapy, was utilized by 25% of the affected women. Only 10% sought medical consultation for specialized treatment, which could include prescription medications or referrals to specialists like orthopedic surgeons.
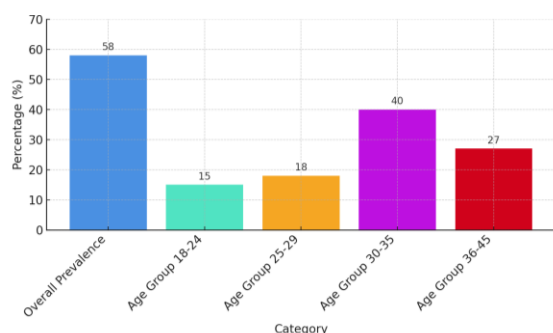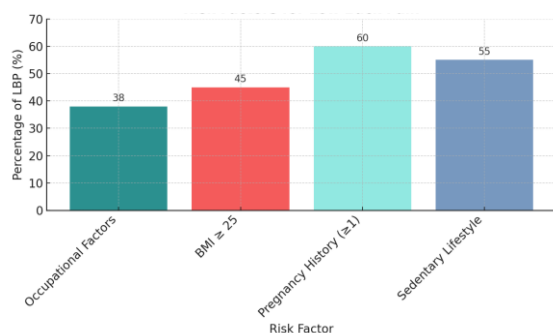
Table 1: Prevalence of Low Back Pain

Category	Percentage (%)
Overall Prevalence	58
Age Group 18-24	15
Age Group 25-29	18
Age Group 30-35	40
Age Group 36-45	27

Table 2: Risk Factors for Low Back Pain

Risk Factor	Percentage of LBP (%)
Occupational Factors	38
BMI ≥ 25	45
Pregnancy History (≥1)	60
Sedentary Lifestyle	55

Table 3: Management Strategies

Management Strategy	Percentage of Women (%)
Self-Care (Pain Medication, Heat Therapy, Stretching)	65
Physiotherapy	25
Medical Consultation	10

Figure No: 1 Prevalence of Low Back Pain

Figure No: 2 Risk Factors of Low Back Pain
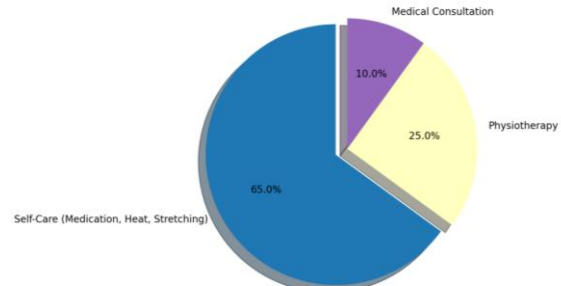
Figure No: 3 Management Strategies for Low Back Pain

DISCUSSION

The findings of this study highlight critical insights into the prevalence, risk factors, and management strategies for low back pain (LBP) in women of reproductive age. The overall prevalence of LBP was 58%, consistent with existing literature that emphasizes the high incidence of musculoskeletal disorders in this demographic. Women aged 30-35 exhibited the highest prevalence, supporting evidence that age-related physiological changes and lifestyle factors contribute significantly to LBP.[8,9]

Risk Factors

Among the identified risk factors, pregnancy history emerged as the most significant, affecting 60% of women with LBP. This aligns with studies that recognize pregnancy-related biomechanical changes and weight gain as primary contributors to LBP. Additionally, sedentary lifestyles and high body mass index (BMI) were prevalent risk factors, indicating the role of inactivity and obesity in musculoskeletal health.[10,11] Occupational factors, particularly prolonged sitting or standing, were also prominent, affecting 38% of women with LBP. This observation reinforces the need for improved ergonomic practices and regular movement breaks at work.[12]

Management Strategies

Management strategies relied heavily on self-care measures, with 65% of women using over-the-counter medications, heat therapy, or stretching. While these approaches may provide temporary relief, they do not address underlying causes and could lead to chronic LBP if overused. Only 10% sought medical consultation, possibly due to lack of awareness or access to specialized care.[13] Physiotherapy, used by 25% of the women, represents a more structured approach and should be promoted as an effective treatment for LBP.[14]

Implications for Healthcare Providers and Policymakers

The findings highlights the importance of early intervention and preventive measures, particularly for women at higher risk of LBP due to pregnancy or occupational factors. Educational programs should target ergonomic practices, physical activity, and weight management. Healthcare providers should encourage women to seek professional guidance and

2133

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tailor management strategies based on individual needs.

Limitations and Future Research
The study had certain limitations, such as the relatively small sample size and cross-sectional design, which limit the ability to establish causality between risk factors and LBP. Future research could focus on longitudinal studies to better understand the progression of LBP over time. Additionally, larger, multi-center studies could provide more comprehensive data to identify trends across diverse populations.

CONCLUSION

The study revealed a high prevalence of low back pain (LBP) among women of reproductive age, particularly in those aged 30-35. Significant risk factors included pregnancy history, high BMI, sedentary lifestyle, and occupational factors. Most women relied on self-care management strategies, with fewer seeking professional treatment. These findings highlights the importance of comprehensive preventive and therapeutic strategies focused on education, ergonomic improvements, and lifestyle modifications. Early intervention and increased access to physiotherapy can mitigate the long-term impact of LBP on women's health and quality of life.

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2134

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